forming an insulating film on said crystalline semiconductor film;

introducing a dopant impurity into said crystalline semiconductor film through said insulating film by an ion doping; and

annealing said crystalline semiconductor film,

wherein a peak of a concentration profile of said dopant impurity is located in said insulating film.

5.(Amended) A method according to claim 1 wherein said crystalline semiconductor film comprises polycrystalline silicon.

22.(Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming a crystalline semiconductor film on an insulating surface;

forming an insulating film on said crystalline semiconductor film;

introducing a dopant impurity into said crystalline semiconductor film through said insulating film by an ion doping; and

annealing said crystalline semiconductor film,

C3 cont'd

wherein a peak of a concentration profile of said dopant impurity is located above said insulating surface.

C4 Sub E1

26. (Amended) A method according to claim 22 wherein said crystalline semiconductor film comprises polycrystalline silicon.

Sub E1

43. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

C5

forming a crystalline semiconductor film having a portion to become a channel region on an insulating surface;

forming an insulating film on said crystalline semiconductor film;

introducing a dopant impurity into at least said portion through said insulating film by an ion doping; and

annealing said crystalline semiconductor film,

wherein a peak of a concentration profile of said dopant impurity is located in said insulating film.

Sub E1

52. (Amended) A method of manufacturing a semiconductor device comprising the steps of:

C6

forming a crystalline semiconductor film having a portion to become a channel region on an insulating surface;

forming an insulating film on said crystalline semiconductor film;

introducing a dopant impurity into at least said portion through said insulating film by an ion doping; and

annealing said crystalline semiconductor film,

wherein a peak of a concentration profile of said dopant impurity is located above said insulating surface.

Please add new claims 65-82.

--65. (New) A method of manufacturing a semiconductor device comprising the steps of:

forming a crystalline semiconductor film on an insulating surface;

forming an insulating film on said crystalline semiconductor film;

introducing a dopant impurity into said crystalline semiconductor film through said insulating film by an ion doping;

removing said insulating film after said introducing step; and

annealing said crystalline semiconductor film after said removing step,

wherein a peak of a concentration profile of said dopant impurity is located in said insulating film.

66. (New) A method according to claim 65 wherein said insulating film comprises silicon oxide.

67. (New) A method according to claim 65 wherein said dopant impurity is boron.

68. (New) A method according to claim 65 wherein said crystalline semiconductor film comprises polycrystalline silicon.

69. (New) A method according to claim 67 wherein said boron is supplied by diborane gas.

70. (New) A method according to claim 65 wherein said semiconductor device comprises an active matrix display device having thin-film transistors.

71. (New) A method according to claim 65 wherein said semiconductor device comprises a shift register circuit having thin-film transistors.

72. (New) A method according to claim 65 further comprising a step of irradiating a laser light to said crystalline semiconductor film.

Sub E1

73. (New) A method according to claim 65 wherein said annealing step is conducted by a heating.

74. (New) A method of manufacturing a semiconductor device comprising the steps of:

C7

forming a crystalline semiconductor film on an insulating surface;

forming an insulating film on said crystalline semiconductor film;

introducing a dopant impurity into said crystalline semiconductor film through said insulating film by an ion doping;

removing said insulating film after said introducing step; and

annealing said crystalline semiconductor film after said removing step,

wherein a peak of a concentration profile of said dopant impurity is located above said insulating surface.

75. (New) A method according to claim 74 wherein said insulating film comprises silicon oxide.

Sub E1

76. (New) A method according to claim 74 wherein said dopant impurity is boron.

77. (New) A method according to claim 74 wherein said crystalline semiconductor film comprises polycrystalline silicon.

C7

78. (New) A method according to claim 76 wherein said boron is supplied by diborane gas.

79. (New) A method according to claim 74 wherein said semiconductor device comprises an active matrix display device having thin-film transistors.

80. (New) A method according to claim 74 wherein said semiconductor device comprises a shift register circuit having thin-film transistors.

81. (New) A method according to claim 74 further comprising a step of irradiating a laser light to said crystalline semiconductor film.